Amendments to the Claims:

1. (currently amended) A method for welding single crystal superalloys comprising the steps of:

using a high power energy source to both preheat and melt a filler comprising a ~~superalloy~~ modified MCrAlY and to cause melting of at least a portion of a surface of a substrate comprising a single crystal superalloy; and

depositing said filler onto the portion of the surface of the substrate to form a solid clad on the substrate to provide a superalloy weld.

2. (original) The method for welding single crystal superalloys of claim 1 wherein said high power energy source is a laser.

3. (currently amended) A method for welding single crystal superalloys comprising the steps of:

providing a substrate to be treated, said substrate comprising a single crystal superalloy;

providing a filler, said filler comprising a superalloy;

exposing said filler to a high power energy source to cause preheating and melting of said filler by said high power energy source, the high power energy source being a laser selected from the group consisting of carbon dioxide, Nd:YAG, diode and fiber lasers;

exposing a portion of a surface of said substrate to said high power energy source to cause partial melting of the portion of the surface of said substrate by said high power energy source; and

depositing said filler onto the portion of the melted surface of said substrate to form a solid clad on said substrate to provide a superalloy weld.

4. (canceled).

5. (original) The method for welding single crystal superalloys according to claim 3 further comprising the step of:

providing said substrate comprises elements selected from at least one of the group consisting of Ni, Co, Cr, Mo, W, Ta, Al, Ti, Re, Nb, Hf, C and B.

6. (currently amended) The method for welding single crystal superalloys according to claim 3 ~~further comprising the step of:~~

~~providing~~ wherein said filler comprises ~~is selected from at least one of the group consisting of HS-188, HASTELLOY-X, INCO-713, INCO-738, INCO-939, MAR-M247, REN 80, C-101 and~~ modified MCrAlY.

7. (original) The method for welding single crystal superalloys according to claim 6 wherein said modified MCrAlY is modified with an element selected from at least one of the group consisting of Pt, Pd, Re, Ta, Hf, Zr, Si, C and B.

8. (original) The method for welding single crystal superalloys according to claim 6 wherein said M of said MCrAlY is selected from at least one of the group consisting of Ni, Co and Fe or combination thereof.

9. (original) The method for welding single crystal superalloys according to claim 3 further comprising the step of:

providing said filler comprises an element selected from at least one of the group consisting of Ni, Co, Fe, Cr, W, Mo, Al, Si, Nb, Ti, Ta, Zr, Re, Hf, C, B, Y and La.

10. (original) The method for welding single crystal superalloys according to claim 3 further comprising the steps of:

feeding said filler through a co-axial nozzle of said high power energy source;

shrouding said filler and the portion of the surface of said substrate with an inert gas; and

causing rapid relative motion of a beam of said high power energy source to an adjacent portion of the surface of said substrate allowing a solid clad to form.

11. (original) The method for welding single crystal superalloys according to claim 10 further comprising the step of:

providing said filler in the form of a powder; and providing a powder feeder for feeding said powder of said filler into said co-axial nozzle.

12. (original) The method for welding single crystal superalloys according to claim 11 wherein said powder is fed by powder feeder at a rate of about 1.5 to about 20 grams per minute.

13. (original) The method for welding single crystal superalloys according to claim 11 wherein said powder is fed by said powder feeder at a rate of about 1.5 to about 10 grams per minute.

14. (original) The method for welding single crystal superalloys according to claim 3 wherein said filler comprises a wire.

15. (original) The method for welding single crystal superalloys according to claim 10 wherein said rapid relative motion of said beam of said high energy power source is caused at a speed of about 5 to about 22 inches per minute relative to the adjacent portion of the surface of said melted substrate.

16. (original) The method for welding single crystal superalloys according to claim 10 wherein said rapid relative motion of said beam of said high energy power source is caused at a speed of about 5 to about 14 inches per minute relative to the adjacent portion of the surface of said partially melted substrate.

17. (canceled).

18. (canceled).

19. (currently amended) The method for welding single crystal superalloys according to claim [[17]] 3 wherein said laser has a power of about 50 to about 2500 watts.

20. (currently amended) The method for welding single crystal superalloys according to claim [[17]] 3 wherein said laser has a power of about 50 to about 1500 watts.

21. (currently amended) The method for welding single crystal superalloys according to claim [[17]] 3 wherein a laser beam of said laser is defocused by about 0.02 to about 0.1 inches.

22. (currently amended) The method for welding single crystal superalloys according to claim [[17]] 3 wherein a laser beam of said laser is defocused by about 0.04 to about 0.06 inches inches.

23. (currently amended) The method for welding single crystal superalloys according to claim [[17]] 3 wherein said laser produces a laser-welded clad bead having a width of about 0.02 to about 0.1 inches.

24. (currently amended) The method for welding single crystal superalloys according to claim [[17]] 3 wherein said laser produces a laser-welded clad bead having a preferable width of about 0.04 to about 0.06 inches.

25. (original) A welded single crystal superalloy prepared according to the method of claim 3.

26. (currently amended) A method for repairing a portion of a surface of a single crystal superalloy substrate comprising the steps of:

providing a single crystal superalloy substrate having a surface defect;

providing a superalloy filler;

exposing said filler to a laser source to cause preheating and melting of said filler by said laser source, the laser source being selected from the group consisting of carbon dioxide, Nd:YAG, diode and fiber lasers;

exposing a portion of a defective surface of said substrate to said laser source to cause melting of the portion of the defective surface of said substrate by said laser source; and

depositing said filler onto the portion of the defective surface of said substrate to form a solid clad on the portion of the defective surface of said substrate to provide a superalloy repair of said surface defect of said substrate.

27. (original) The method for repairing the surface of a single crystal superalloy substrate according to claim 26 further comprising the steps of:

feeding said filler through a co-axial nozzle of said laser source;

shrouding said filler and the portion of the defective surface of said substrate with an inert gas; and

causing rapid relative motion of a beam of said laser source to an adjacent portion of the surface of said substrate allowing a solid clad to form.

28. (original) The method for repairing the surface of a single crystal superalloy substrate according to claim 27 further comprising the steps of:

providing said filler in the form of a powder; and providing a power feeder for feeding said powder of said filler into said co-axial nozzle.

29. (currently amended) A method for coating the surface of a single crystal superalloy substrate comprising the steps of:

selecting a portion of a surface of a single crystal superalloy substrate to be treated;

providing ~~an advanced superalloy~~ a filler comprising modified MCrAlY;

exposing said filler to a laser source to cause preheating and melting of said filler by said laser source;

exposing the portion of the surface of said substrate to said laser source to cause melting of the portion of the surface of said substrate by said laser source; and

depositing said filler to form a solid clad onto the portion of the surface of said substrate to provide a single crystal superalloy coating on the surface of said substrate.

30. (original) The method for coating the surface of a single crystal superalloy substrate according to claim 29 further comprising the steps of:

feeding said filler through a co-axial nozzle of said laser source;

shrouding said filler and the portion of the surface of said substrate with an inert gas; and

causing rapid relative motion of a beam of said laser source to an adjacent portion of the surface of said substrate allowing a solid clad to form.

31. (original) The method for coating the surface of a single crystal superalloy substrate according to claim 30 further comprising the step of:

providing said filler in the form of a powder; and

providing a power feeder for feeding said powder of said filler into said co-axial nozzle.

32. (canceled).

33. (canceled).